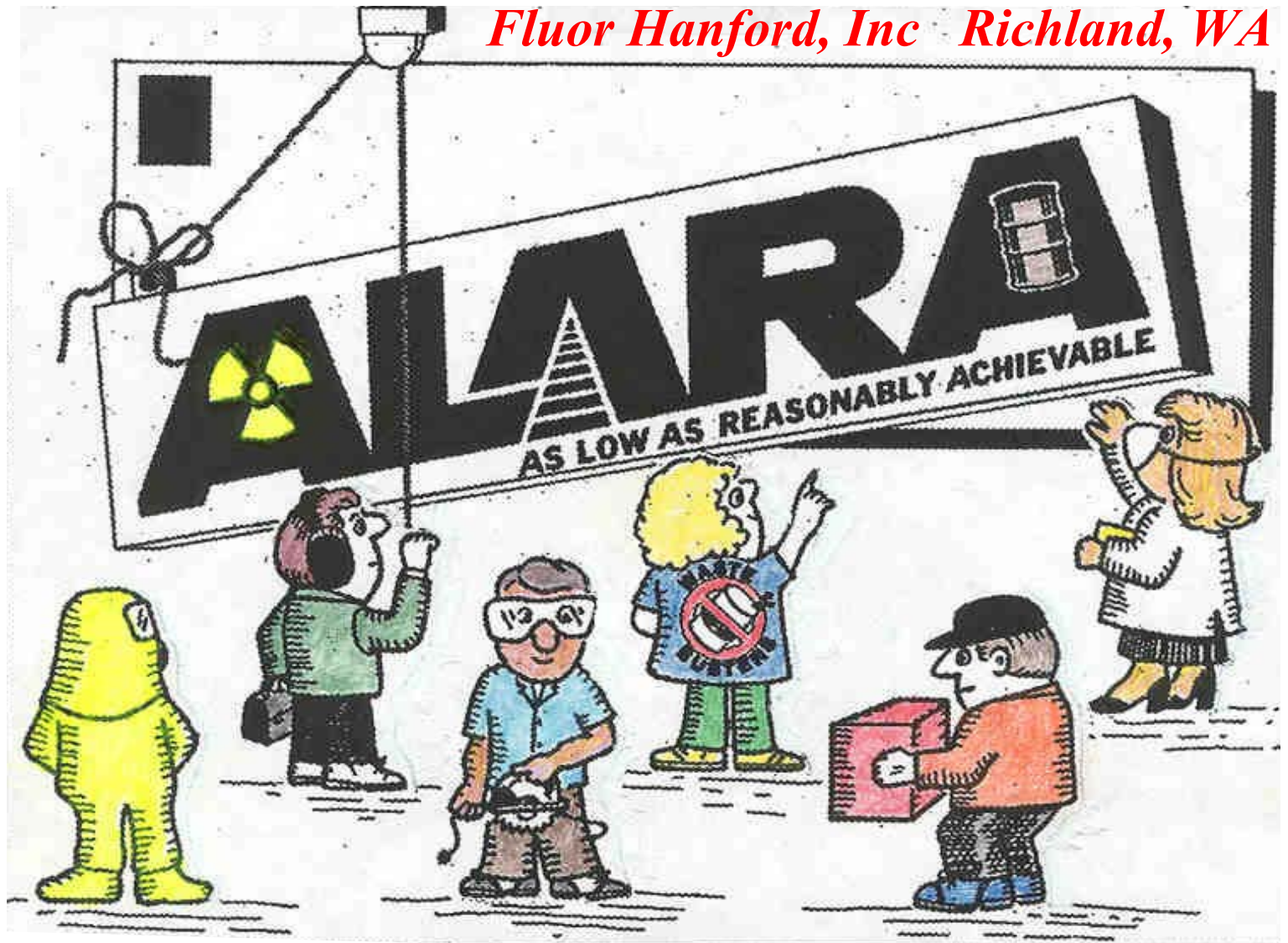


Fluor Hanford, Inc Richland, WA



"Center of Technology"

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ALARA *Center of Technology*

- 1. The “ALARA Center”,
What and Where?
- 2. This is the “ALARA Center”
- 3. List of active Vendors
- 4. List of the Video Library
- 5. ALARA Center Points of Contact

What is the ALARA Center of Technology?

- The “ALARA Center” is an information facility at the Hanford DOE site, in Richland Washington, operated by Fluor Hanford (FH).

Where is the Center located?

- The “Center” is in the 200 East Area in Bldg 2101M
- The “Center” is open 7 a.m. to 3 p.m., Monday through Friday



Hanford Site Location Map



What can the Center do for you?

- 1. The “ALARA Center” has resources where workers, planners, engineers and management at Hanford can see tools, equipment and processes available for radiological work.
- 2. Where organizations outside Hanford Site can contact for information on tools and processes for Radiological work.

- 3. If the “ALARA Center” does not have an item, they will attempt to find the appropriate item using existing vendors, trade catalogs, journals and the internet.
- 4. Use the “ALARA Centers” staff’s 82 years of experience in Radiological work, on overhauls, refueling, special projects, and decommissioning of reactor plants and facilities associated with nuclear reactors.

Equipment & Tools in the Center

- Most of the equipment, tools, PPE and materials at the “ALARA Center”, have been donated or are on loan from vendors. In most cases, brochures and video tapes are available on the various products.
- Equipment and tools can be loaned to on site contractors for evaluation and demonstrations.

Welcome to the “ALARA Center”

- A sign-in book is available.
- A number of handouts on radiological practices are available.
- Plaques showing past ALARA person of the Quarter and year



A Wealth of Reference Material

- Technical manuals, instructions, lessons learned and good radiological work practices are available at the “Center”.



PPE and Glovebag Mockups

- Model is dressed in PPE and PAPR, w/ a tyvek hood and HEPA Filter.
- Installed glove bags, with items inside to try your skills.



Radiological Protection

- Protection can be a glove bag, a catch, a walkin tent or PPE.
- Signs/posting specify requirements such as dosimetry, PPE clothing and other controls.



Glovebag skill builder

- Try your skills at working in a glovebag, stacking blocks, dealing cards or coloring. Good practice for the real thing.



Fixatives to Contain Contaminates

- Fixatives are used to contain contaminants. Used on dirt, concrete, metals and some wet surfaces.
- Used also inside pipes.
- Black light powder is used to simulate contamination.



Remote Pipe Cutting

- Cutter for cutting heavy wall piping remotely at RRP. Arrow shows actual tool installed in a RPP tank farm pit.



Pre-fab closure & Waste Box

- Metal pre-fab enclosure, 4' X 8" sections that connect with locking pieces. Comes with windows doors and penetrations.
- DOT spec container for burial of dry material.



Walkin Tent and RadCon Posting

- Walkin tent has a vestibule for doffing PPE on exit.
- More posting found at Hanford, including a step-off pads and stanchions.



Portable Detection Instruments

- A place where RCT/HPTs can see radiation detection instruments used at Hanford.
- A section is present for new instruments that are being evaluated for future use.



GammaCam Radiation Imager

- GammaCam takes a black & white picture and places a color overlay of the highest gamma radiation source in the picture. Maximum gamma levels are quantified.



Communication Systems

- Systems can be used under and outside the workers' PPE and adapt to hardware like cell phones. Systems are wired and wireless.



Pipe Draining Equipment

- The bottom left is a “Hot Tap”, used to drain radioactive systems by drilling into the pipe.
- On the right is a system that uses an explosive charge to make an opening in the pipe.



Hose Connectors

- Hose couplings and quick disconnect adapters for various applications. Shown here are stainless steel connects that could be used on a DI system.



Mechanical Decon Tools

- Shrouded tools are designed to have capture of dust and debris as the tool removes contaminated material. Each tool has a port to attach a HEPA filtered vacuum cleaner



Peristaltic Pumps

- All liquid is contained in the hose and does not contaminate the pump. The large pump can pass 3/4" diameter rocks and has a 132 GPM flow rate.



Hydraulic Torque Wrenches

- A vendor working with CHG, is developing a tool that would allow remote operation of jumper bolts in the tank farm pits.



Clam Shell Pipe Cutting Tool

- Unit can cut pipe to 4" and end prep for a butt joint in one operation. Clam shell units are available to 24" diameter.



HEPA Filtered Vacs and Blowers

- In the Hardware section of the “Center” there are number of different styles of HEPA filtered vacuum cleaners and blower units, for different work requirements



Floor Model HEPA Vacuums

- HEPA filtered vacuums and in-line debris collectors
- The left vac is an air driven unit.
- The right unit is an intrinsically safe vacuum.
- In the front and middle are debris collectors



HEPA filters and vent attachments

- HEPA filters come in various sizes and shapes.
- A spark arrestor, a stove pipe damper, and a scoop are all part of ventilation equipment on display



Ventilation Mock up

- HEPA
Filtered
ventilation
mockup to
demonstrate
air flow and
capture of
contaminates



Portable HEPA Vacuum Cleaners

- One is a back pack unit and other similar to your home use vacuum cleaner. Both units can be emptied without violating the HEPA filter test certification.



Nuts and Staging

- This staging can be installed and removed in a fraction of time required for regular staging.
- A nut that installs quickly over even a damaged bolt. The spring loaded nut has a torque values.



Temporary Radiation Shielding

- Encapsulated lead foam with a shielding factor equivalent to lead blankets.
- Lead covered with a plastic covering, that can be formed to desired shapes.
- Tungsten shielding, which is non-hazardous.



Vendor's Product Brochures

- There are a number of vendor's product brochures around the "ALARA Center" and are available to all visitors.



Video library

- Videos are available on some products in the “Center” and on some processes. They can be checked out by Hanford contractors for job planning, safety topics and meetings.



“ALARA Center’s” Additional Service

- “ALARA Center” personnel routinely train personnel on use of equipment, tooling and processes.
- “ALARA Center” personnel assist DOE Hanford contractors in work planning and execution of radiological work. Perform walk downs of work sites to assist facilities in planning with high risk work.

Glovebag “Basics” taught here

- Basic glovebag training; installation and certification is given to operations and RadCon techs using hands on mockups.



Worker Orientation to the Center

- Workers visit the “Center” as part of training being received at 2101M or by appointment. All Hanford personnel are welcome. Visits from off-site can be arranged.



Demonstration of ALARA tools

- Workers are seeing how negative HEPA filtered ventilation affects work inside of a glovebag and how ventilation can be an effective contamination control tool.



Pre-Work Planning

- Workers come to the “Center” for work planning on uncontaminated equipment that they will work on in the field, as radioactive. Center work can continue through the procedure walk down and mockup training.



Ventilation Mockups and R&D

- Vent and Balance personnel working with CHG RCT's and Engineering to determine work practices needed to obtain acceptable air flow for capture of radioactive contamination during work.



Ventilation Training for RCT's

- Briefings and presentations on radiological control work practices, tools, equipment and requirements are given to Hanford workers, RCT/HPTs, engineers and planners by Center personnel.



List of “ALARA Center” Vendors

- 3-M
- ABW Tech.
- Adaptive Micro Systems
- Advanced Technologies
- AEA Technology
- Airfiltronix
- AREVA
- Bartlett Services, Inc
- BIL (Detection)
- Blastpro
- Brokk
- Brooks Visual Inspect.
- Bullard
- CavCom Inc
- Carboline
- Cobalt Audio
- Container Products
- Control Products of Colorado
- CR/X
- CS Unitec
- Desco Mfg

List of “ALARA Center” Vendors

- Dickinson Equip.
- Dufrane Associates
- DuPont
- EAI (Environment Alt..Inc.)
- Eberline
- Ecomass
- EDO Systems
- Electromark
- Encapsulation Tech. Inc.
- EST Group Inc
- Eurotech
- Everest VIT
- Excel Scaffolding
- Expansion Seal Tech.
- F & J Specialty
- Fein Power Tools
- Flanders Filters
- Flex Alloy
- Fogging Systems Int.
- Foss Environmental
- Frham
- G/O Corporation
- GeoSafe Geomelt)

List of “ALARA Center” Vendors

- Grainger
- HDI (Distribution)
- HillTap, Ltd
- Hotsey (Columbia basin)
- Hydroweave
- Hytorc Hydraulic Tools
- ICM
- Inflatable Abatement Systems
- Infrared, Inc
- Innovative Industrial Solutions
- Instacote
- Intelagard
- Interstate Nuclear Services
- Inventure
- ISA Corp (Polymer Tech)
- IST
- Kelly Klosures System
- Kimberly-Clark
- Kitz
- Kool N’ Safe
- La Calhene

List of “ALARA Center” Vendors

- Lancs Industries Lenox Instruments
- LFS (Gloves)
- Lockwood Products
- Loc-Line
- Lynn Peavy Co
- M2Polymer Technologies
- Marynn Safety Supply
- Master-Lee Hanford
- Mega-Tech Services
- MGP Instruments
- Micronova
- MJW Corp.
- Moldex
- MSA
- National Safety Inc
- NFS/RPS
- Nilfisk
- Norco Systems
- NOVA Machine Prod.
- Nuclear Filter Tech
- Nuclear Lead Co.

List of “ALARA Center” Vendors

- Nuclear Service
- NuKote (SPI)
- Nurescell Inc
- Oilind Safety
- Orex
- Pelican
- Pentek
- Power Products
- Productivity Group
- Protean Instruments
- Pro-Tem, Inc.
- RadiShield (Mazel)
- Randolph Pump Co.
- R.C. Mussman
- Rich Industries
- Rust Doctor
- S.A..Robotics
- Safety & Supply Co.
- Safeway Supply Inc
- SAIC
- SALA
- Seltech

List of “ALARA Center” Vendors

- Shielding International
- SKC
- SPC
- Steele Inc
- Telex
- Thermo
- Timberline
- Transco Products
- Trilogy BSE
- Tri-E Tech
- Tri-Tool
- Trumpf
- Tru-Tech
- Tyco
- Wachs, E. H.
- Water Works America
- Westec
- Westerman Co.
- Weston Solutions
- Witzel Associates
- Xybernaut

List of “ALARA Center” Videos

- 2nd Annual ALARA Workshop (Waggoner)
- 600 S.B. Series Training
- 6/10 Ton Pick in REC Airlock
- 101-SY Pump Legs Filled w/ waste & 3mm
- Arch Environmental Equipment (Fogger system)
- ALARA-A Team Concept
- Auto splitter from Fastorq Bolting
- Auvstrip/Armex System
- Auto Tension-Stud Tensioners
- Auto-Torq Wrenches From Fastorq System
- AW-B Valve Pit Gasket Change out
- AW-B Jumper Change out
- Because Your Business Depends on Clean Tanks
- Blastrac BMS-1000
- Bulging Drums: What ever Responder Know
- Bundle Extractors Fastorq Bolting Systems

List of “ALARA Center” Videos

- Cheluobinski criticality
- Clear- Pb Lead Shielding
- Continued Video Program
- Cool Suit Commercial
- Cool Suit Overview
- CO2 Dry Ice Blasting (Wilson)
- Designing for Powder Metallurgy
- Direct Tension Indicators from Fastorq
- Desco Power Hand Tool Test in Long Beach
- Dry Ice Blasting (ITS)
- Dry Ice Surface Prep, Cryogenesis
- Electro-Coagulation Process
- Eliminator Vest
- Encapsulation Technologies
- ETEC Laser and Plasma Tube Cutting
- Excel Scaffold Demo Bldg. 5' x 7' x 15' high

List of “ALARA Center” Videos

- Five Full Scale Cask Test
- Gasket Change out, Valve Pit 4-26-95
- Glove bags: A Containment Solution
- GPX 10-18
- Guillotine Saw
- High Speed “Clamshell” pipe Cutter
- Hytorc Training Video
- Introduction to Fastorq Bolting System
- Inflatable Abatement Systems
- Insta-cote Master-Lee
- Introduction to PolyShield SS-100
- Kelly Decon Glove Booth
- Kelly Decon System
- KEPR News of Center
- Laser Cutting Tech Demo

List of “ALARA Center” Videos

- Lead Abatement Systems
- Line-X Fox News
- LTC Americas
- Mobile Robotics Products
- Mock-up at 324 A-Cell Bridge Hoist Structure
- Need for Nomex
- Nelco Corporate Video JHJ-2000 Demo
- Nukote Polyurea, Introduction
- Oceaneering, Remote Nuclear Services
- Our Complete Dust Suppression System
- Pentek Wall walker
- Pentek Collage
- Pentek Collage #134
- Pics “Cool Suit” Technology
- Pipe Cleaner- XChange 1997
- PolyShield SS-100 Elastomeric Coating

List of “ALARA Center” Videos

- Polyurea Revolution, Leading the
- Portable Pipe Cutting & Beveling System
- Proven Performance of DuPont Nomex
- Reactor Vessel Headstand Ring Shielding
- Remote and Hazmat
- Remote Intervention (ROSRS), Oceaneering
- Rescue Cutter- Champion
- Robotic Climber
- Robotic Crawler Footage
- Safety Observer Banquet Morecraft/Lacey
- Safety with Excel
- Sludge Mate
- Solutions for Concrete Surface Preparation
- Special projects Video
- Speed Comparison Fastorq Bolting Systems

List of “ALARA Center” Videos

- Speed Comparison Fastorq Bolt System
- Sponge Blasting System
- SS-988 Sorting System
- Super Compactor B-1000
- Super SSAP
- Superior Disaster
- Thermocouple Tree Riser 16C, Hanford 2/96
- Titan, Conan & Gemini Manipulative Arms
- TMI RCP Impellor Inspections
- Tomorrow’s Technology for Environment Needs
- Tour- 2E w/A.W. Conklin, 100N/2W AWC
- USS Arizona Project
- Vacuum Blasting

List of “ALARA Center” Videos

- Visions and Voices
- W-030 Ventilation Upgrade
- Walker Lip- GPU
- Welding, Machine and Grind Fume Extraction
- Your Facilities Atlas. Discover the Power

ALARA Center of Technology

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